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09/612,522	07/06/2000	KAZUHIKO SUZUKI	104813	7258
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OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER HOLMES, MICHAEL B	
			ART UNIT 2121	PAPER NUMBER
DATE MAILED: 10/26/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/612,522

Applicant(s)

SUZUKI, KAZUHIKO

Examiner

Michael B. Holmes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 34-157 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-47, 49-73, 75-99, 101-126 and 128-157 is/are rejected.
- 7) ☒ Claim(s) 48, 74, 100 and 127 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on September 09, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.



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## Examiner's Detailed Office Action

1. This Office Action is responsive to application 09/612,522, filed July 06, 2000.
2. Claims 34-157 have been examined.

## Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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5. Claims 34-47, 50-73, 76-99, 102-126 and 129-157 are rejected under 35 U.S.C. 102(e) as being anticipated by *Hugh* (USPN 6,031,537).

Regarding claims 34, 60, 86, 112, 138, 148, 150, 152 & 154. *Hugh* describes a method of analyzing a thought system of a subject [see C 4, L 13-32], said subject consisting of at least one individual and said method being implemented by a computing device [see Abstract, FIG. 1, C 5, L 24-50], the method comprising the steps of: a plurality of items perceived by said subject into the computing device [see FIG. 2, C 5, L 52 to C 7, L 47]; obtaining relationship information of all possible pairs of said items, based on perception of said subject with respect to relationship between two items of each of said all possible pairs of said items [see C 2, L 37 to C 3, L 09 and FIG. 2 & FIG. 3, C 7, L 26 to C 9, L 67]; generating a relation matrix of the plurality of items based on said relationship information of each of said items with respect to the all other items [see Abstract and C 12, L 65 to C 21, L 02]; transforming said relation matrix to a display matrix projected on a representation space having dimensions lower than the number of said items and reflecting a relationship between said items perceived by said subject [see C 2, L 19-35 and FIG. 3 & FIG. 4, C 7, L 48 to C 8, L 33 and C 9, L 46 to C 10, L 46]; displaying said items on said representation space according to said display matrix such that said items are plotted on respective positions in said representation space and shown on an output device, wherein said step of obtaining relationship information further comprises the step of showing said subject only one pair of said all possible pairs of said items in order, for allowing said individual to assign said relationship information for each pair of said items, in the same order [see FIG. 3, FIG. 4, FIG. 8, FIG. 9, FIG. 11, FIG. 12 & FIG. 13 and C 26, L 15 to C 29, L 07], displaying said items on said representation space according to said display matrix such that said items are plotted on

respective positions in said representation space and shown on an output device [see FIG. 3, FIG. 4, FIG. 8, FIG. 9, FIG. 11, FIG. 12 & FIG. 13 and C 26, L 15 to C 29, L 07], wherein said items perceived by said subject are qualitative data, while said relationship information are processed as quantitative data in said step of transforming said relation matrix to said display matrix, [see C 4, L 20-32], a first input device being arranged to input a plurality of items perceived by said subject [see Abstract, FIG. 1, C 5, L 24-50 and C 26, L 16-32], a second input device being arranged to input a relationship information between two items of each of all possible pairs of said plurality of items, according to perception of said subject with respect to said relation rating [see Abstract, FIG. 1, C 5, L 24-50 and C 26, L 16-32], a relation matrix generator adapted to generate a relation matrix based on said relationship information of each of said items with respect to the others of said items [see Abstract and C 12, L 65 to C 21, L 02], a display matrix generator adapted to transform said relation matrix into said display matrix projected on a representation space having dimension lower than the number of said items, said representation space reflecting a relationship between said items perceived by said subject [see Abstract and C 12, L 65 to C 21, L 02], a display device adapted to display said items in said representation space such that said items are plotted on respective positions in said representation according to said display matrix [see Abstract and C 12, L 65 to C 21, L 02]; and an external display device being arranged for visually showing said representation space in the form of two or three dimensional coordinates in which said items are plotted in the respective coordinates, wherein the relation matrix generator and display matrix generator are implemented by a computer system, and the first and second input devices are coupled to the computer system [see FIG. 3, FIG. 4, FIG. 8, FIG. 9, FIG. 11, FIG. 12 & FIG. 13 and C 26, L 15 to C 29, L 07].

Regarding claims 140, 142, 144 & 146. *Hugh* describes a computer program product for analyzing a thought system of a subject by using a plurality of items perceived by said subject, said subject consisting of at least one individual [see Abstract, FIG. 1, C 5, L 24-50 and C 4, L 33-55], said computer program comprising: computer code that relates each of said items to all other items, using a rating of relationship on several levels [see Abstract, FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], computer code that generate a relation matrix using said obtained relation ratings, [see Abstract, FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], computer code that performs a multivariate analysis on said relation matrix so as to transform said relation matrix to a display matrix [see Abstract, FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], computer code that display the all items on respective position of a representation space according to said display matrix [see Abstract, FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], computer code that display only one pair of said all possible pairs of said items in order, for allowing said individual to assign said relationship information for each pair of said items, in the same order [see FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], and a computer-readable medium that stores the program codes [see FIG. 1, C 5, L 24 to C 7, L 47 and C 4, L 33-55], computer code that represent said items perceived by said subject as qualitative data, and process said relation ratings as quantitative data in order to transform said relation matrix to said display matrix [see C 4, L 20-32].

Regarding claims 35, 61, 87 & 113. *Hugh* describes items are represented by language [see C 5, L 40-46 and C 8, L 12-34].

Regarding claims 36, 62, 88 & 114. *Hugh* describes items belong to a single group conceptually undistinguishable [see Abstract].

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Regarding claims 37, 63, 89 & 115. *Hugh* describes obtaining items is executed to obtain about 5-20 items [see FIG. 3, C 9, L 46-67].

Regarding claims 38, 64, 90 & 116. *Hugh* describes obtaining said plurality of items is arranged to obtain successively said items from said subject, while all of said items previously obtained are shown to said subject [see Fig. 9 C 18, L 59 to C 19, L 03].

Regarding claims 39-41, 66-68, 92-94, & 118-120. *Hugh* describes relationship information consists of rating of relationship between said two items of each of said all possible pairs of said items, and rating of relationship consists of a plurality of rating concepts representing different degrees of said relationship [see C 6, L 64 to C 7, L 06 and C 25, L 05-34].

Regarding claims 42, 69, 95 & 121. *Hugh* describes detecting a unique item having no relationship to all other items based on said relationship information, and deleting said unique item from said items so as to regenerate said relation matrix [see C 124, L 20-48].

Regarding claims 43, 70, 96 & 112. *Hugh* describes determining whether said relationship information is biased, and displaying a warning to said subject if said relationship information is biased, while comprising the step of initializing said step of obtaining said relationship information so as to recommence said step of obtaining said relationship information, as needed [see C 13, L 38-59].

Regarding claims 44, 97 & 123. *Hugh* describes qualitative data, while said relationship information are processed as quantitative data in said step of transforming said relation matrix to said display matrix [see C 4, L 13-32].

Regarding claims 45, 71, 98 & 124. *Hugh* describes order of showing said one pair of items of said all possible pairs is arranged to avoid repetition of each item in consecutive pairs [see C 13, L 57 to C 14, L 03].

Regarding claims 46, 72, 99 & 125. *Hugh* describes obtaining said plurality of items and said step of obtaining said relationship information are performed successively by said individuals in a substantially continuous time [see C 25, L 5-22].

Regarding claims 47, 73 & 126. *Hugh* describes generating said relation matrix is arranged for generating said relation matrix by using values of said relationship information, said relationship information being assigned to each of said items for representing the relationship with respect to said all other items, and being set to respective elements of said relation matrix [see C 7, L 07-25].

Regarding claims 50, 76, 102 & 129-131. *Hugh* describes arranging said display matrix such that values of elements of said display matrix to be weighted with respect to a specific dimension [see C 6, L 64 to C 7, L 06 and C 14, L 65 to C 15, L 15].



Regarding claims 51-53, 77-79, 103-105. *Hugh* describes representation space consists of a two or three dimensional coordinate domain, and said step of displaying said items is arranged for plotting items on a corresponding position in said coordinate domain, according to said display matrix [see C 14, L 65 to C 15, L 15], each of said items plotted on said coordinate domain is depicted by an object the size of which corresponds to the value of relativity of said item with respect to the all other items [see C 14, L 65 to C 15, L 15], each of said items plotted on said coordinate domain is depicted by an object the size of which corresponds to a value of relativity of said item with respect to one of said dimension axis [see C 14, L 65 to C 15, L 15].

Regarding claims 54, 80, 106 & 132. *Hugh* describes transforming said relation matrix to said display matrix further comprises the step of storing a data of said display matrix [see Abstract].

Regarding claims 55, 81, 107 & 133. *Hugh* describes performing a cluster analysis using said display matrix, so as to separate said items into groups, the number of said groups being smaller than the total number of said items [see C 18, L 59 to C 19, L 16].

Regarding claims 56, 57, 82, 83, 108, 109, 134 & 135. *Hugh* describes subject consists of a plurality of individuals, said step of obtaining said plurality of items is performed for obtaining a plurality of items commonly perceived by said plurality of individuals, said step of obtaining relationship information is separately performed by said plurality of individuals for obtaining a plurality sets of relationship information based on perceptions of each of said individuals with respect to all possible pairs of said items, and said step of generating a relation matrix is per-

formed for generating a aggregated relation matrix for said subject, by summing up said plurality sets of relation matrixes of said plurality of individuals [see C 2, L 19-35 and C 12, L 65 to C 13, L 27], subject consists of a plurality of individuals, and said step of obtaining said relation matrix is performed by said plurality of individuals such that said plurality of individuals share all possible pairs of said items to assign said relationship information to said all possible pairs of items [see C 2, L 19-35 and C 12, L 65 to C 13, L 27].

Regarding claims 58, 84, 110 & 136. *Hugh* describes subject consists of a plurality of individuals, said step of obtaining said plurality of items is performed for obtaining a plurality of items commonly perceived by said plurality of individuals, said step of obtaining relationship information is separately performed by said plurality of individuals for obtaining a plurality sets of relationship information based on perceptions of each of said individuals with respect to all possible pairs of said items, said step of generating a relation matrix is performed for generating a plurality of relation matrixes based on said plurality sets of relationship information, and for generating a juxtaposition relation matrix wherein said plurality of relation matrixes are juxtaposed [see Abstract and C 2, L 19-35 and C 9, L 46 to C 10, L 32]; said step of transforming said relation matrix is performed for transforming said juxtaposing matrix to said display matrix, and said step of displaying said display matrix is performed for plotting said items on respective positions of said representation space according to said plurality of relation matrixes for the respective individuals, and indicating the positional differences between said items obtained by one of said plurality of individuals and said items obtained by another of said plurality of individuals [see Abstract and C 2, L 19-35 and C 9, L 46 to C 10, L 32].

Regarding claims 59, 85, 111 & 137. *Hugh* describes a second step of analyzing said thought system arranged for performing steps of selecting at least one of said items obtained in said first step, obtaining a plurality of items perceived by said subject with respect to said selected items, and analyzing said plurality of items according to said analyzing methods [*see* C 13, L 38-56].

Regarding claims 65, 91 & 117. *Hugh* describes obtaining relationship information further comprising the step of showing said subject only one pair of said all possible pairs of said items in order, for allowing said individual to assign said relationship information for each pair of said items, in the same order [*see* C 17, L 04-24].

Regarding claims 139, 156 & 157. *Hugh* describes second input device being arranged to input said relationship information consists of a plurality of terminal units connected to said analyzing apparatus via a telecommunication network, so as to allow said individual to input said relationship information by one of said terminal units [*see* Abstract and C 2, L 19-35 and C 5, L 24-50 and C 26, L 16-32].

Regarding claims 141, 143, 145, 147, 149, 151, 153 & 155. *Hugh* describes a computer program product for analyzing a thought system of a subject by using a plurality of items perceived by said subject, said subject consisting of at least one individual [*see* C 4, L 33-55], said computer program comprising: computer code that relates each of said items to all other items, using a rating of relationship on several levels [*see* C 4, L 33-55 and C 6, L 64 to C 7, L 06 and C 7, L 65 to C 8, L 11], computer code that generate a relation matrix using said obtained relation

ratings [see FIG. 2, C 5, L 53-67 and C 6, L 64 to C 7, L 06], computer code that performs a multivariate analysis on said relation matrix so as to transform said relation matrix to a display matrix [see FIG. 1, C 5, L 24 to C 7, L 47]; computer code that display the all items on respective position of a representation space according to said display matrix [see C 7, L 50-64], computer code that display only one pair of said all possible pairs of said items in order, for allowing said individual to assign said relationship information for each pair of said items, in the same order [see C 17, L 04-24], and a computer-readable medium that stores the program codes, wherein the computer code performs a method defined in claim 35 [see C 5, L 24-50], computer code that represent said items perceived by said subject as qualitative data, and process said relation ratings as quantitative data in order to transform said relation matrix to said display matrix [see C 4, L 13-32], and a computer-readable medium that stores the program codes [see C 5, L 24-50], computer code that generate a relation matrix using values of said obtained relation ratings being assigned to each of said items for representing the relationship with respect to said all other items, and being set to respective elements of said relation matrix [see C 6, L 64 to C 7, L 06], computer code that display the all items on respective position of a representation space consisting of a two or three dimensional coordinate domain according to said display matrix by plotting items on a corresponding position in said coordinate domain [see C 14, L 65 to C 18, L 15], obtaining a plurality of items perceived by said subject [see Abstract], obtaining relationship information of all possible pairs of said items, based on perception of the subject with respect to relationship between two items of each of said all possible pairs of the items [see C 2, L 38-63 and C 5, L 53-67], generating a relation matrix of said plurality of items based on said relation information of each of said items with respect to said all other items [see C 9, L 46-67],

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transforming the relation matrix to a display matrix projected on a representation space having dimensions lower than the number of said items and reflecting a relationship between the items perceived by the subject [see C 2, L 07-18 and Abstract]; and displaying said items on said representation space according to said display matrix such that said items are plotted on respective positions in said representation space, wherein said step of obtaining relationship information further comprises the step of showing said subject only one pair of said all possible pairs of said items in order, for allowing said individual to assign said relationship information for each pair of said items, in the same order [see Abstract and C 7, L 50 to C 8, L 11 and C 17, L 04-24].

### Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 49, 75, 101 & 128 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hugh* (USPN 6,031,537) in view of *Kitagawa et al.* (USPN 6,138,116).

*Hugh* has been discussed above. *Hugh* does not teach the limitations of: transforming said relation matrix to said display matrix, comprising a step of performing a singular value decomposition. However, *Kitagawa et al.* discloses transforming said relation matrix to said display matrix, comprising a step of performing a singular value decomposition.

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Regarding claims 49, 75, 101 & 128. *Kitagawa et al.* describes transforming said relation matrix to said display matrix, comprising a step of performing a singular value decomposition [see FIG. 3, C 6, L 30-45]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Hugh* with *Kitagawa et al.* because *Kitagawa et al.* provides a data retrieving method and apparatus which is capable of performing retrieval operation at high speed by projecting a keyword designated by a user upon a subspace of a semantic space, whereby narrowing down retrieval object.

### Claim Objection(s)

8. Claims 48, 74, 100, 127, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### Correspondence Information

9. Any inquires concerning this communication or earlier communications from the examiner should be directed to Michael B. Holmes, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-3686 or facsimile transmission (571) 273-3686 or email [Michael.holmesb@uspto.gov](mailto:Michael.holmesb@uspto.gov).

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, Anthony Knight, may be reached at (571) 272-3687.

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Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

***Michael B. Holmes***

Patent Examiner

Artificial Intelligence

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United States Department of Commerce

Patent & Trademark Office

*Friday, October 14, 2005*

*MBH*



**Anthony Knight**  
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